EXPERIMENT [23](dijkstras algorithm)

CODE:

#include <stdio.h>

#define INF 9999

int main() {

int g[10][10], dist[10], vis[10] = {0}, n, start, i, j, min, u;

printf("Enter number of vertices: ");

scanf("%d", &n);

printf("Enter adjacency matrix (0 if no edge):\n");

for (i = 0; i < n; i++)

for (j = 0; j < n; j++)

scanf("%d", &g[i][j]);

printf("Enter starting node: ");

scanf("%d", &start);

for (i = 0; i < n; i++) dist[i] = (g[start][i] ? g[start][i] : INF);

dist[start] = 0; vis[start] = 1;

for (i = 1; i < n; i++) {

min = INF;

for (j = 0; j < n; j++)

if (!vis[j] && dist[j] < min) min = dist[j], u = j;

vis[u] = 1;

for (j = 0; j < n; j++)

if (!vis[j] && g[u][j] && dist[u] + g[u][j] < dist[j])

dist[j] = dist[u] + g[u][j];

}

printf("Shortest distances:\n");

for (i = 0; i < n; i++) printf("To %d = %d\n", i, dist[i]);

return 0;

}OUTPUT:

